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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,930	05/08/2006	Li Sun	CN03 0051 US1	9951

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EXAMINER

HAILU, KIBROM T

ART UNIT	PAPER NUMBER
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2461

NOTIFICATION DATE	DELIVERY MODE
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04/08/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/578,930	Applicant(s) SUN ET AL.	
	Examiner KIBROM T. HAILU	Art Unit 2461	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/08/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the appeal brief filed on January 6, 2011, PROSECUTION IS HEREBY REOPENED. A new ground of rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claim 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira et al. (US 2004/0116122 A1) in view of Takahashi et al. (US 6,650,629 B1).

Regarding claim 1, Zeira discloses a method for mitigating P2P (Peer-to-Peer) interferences (paragraph [0012]), performed by a network system, comprising: determining code group information, according to code group usage information of a cell in which two UEs (User Equipments) are attempting to establish a P2P link camp, and also according to the code group usage information of a cell's adjacent cells (paragraph [0030]; [0017]; [0013]; [0023]; [0025], explaining that codes are determined based on or used by a particular cell (such as C1) and other neighboring cells (such as C2 ... CL) wherein the wireless devices (WTRUs) directly communicate with each other); and selecting a scrambling code from the code group information and assigning it to the two UEs, so that the two UEs can perform a scrambling operation on P2P signals to be transferred between the two UEs by using the scrambling code (paragraph [0030]; [0015]; [0017]-[0018], illustrating selecting code(s) within or neighboring cells from the group of codes for communication between the wireless devices within or neighboring cell(s)).

Zeira doesn't explicitly disclose the determined code group information is redundant (or unused code information) and selecting out of these unused code information.

Takahashi teaches the determined code group information is redundant (or unused code information) and selecting out of these unused code information (figs. 1, 8-12, 17; col. 10, line 37-col. 11, line 14; col. 8, line 63-col. 9, line 1; col. 15, lines 13-31; col. 20, lines 20-24, illustrating that the mobiles stations within the coverage area of a single base station are directly

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communicated without an involvement of the base station selecting and using the determined unused code information).

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to use the determined code group information is redundant (or unused code information) and selecting out of these unused code information as taught by Takahashi into Zeira in order to reduce the load on a base station to handle cellular calls and to increase the capacity for the user call in the CDMA-based environment or system.

Regarding claim 11, the claim includes features corresponding to subject matter mentioned above to the rejected claim 1 and is applicable hereto.

5. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira in view of Takahashi, and further in view of Buchert et al. (US 2003/0123524 A1).

As applied above, the modified communication of Zeira discloses measuring a relative position between said two UEs and each of a plurality of other active UEs in a communication state; the two UEs are in the cell where said two UEs are camping and each of the other active UEs are in a communication state with adjacent cells (Figs. 2A-2D); if at least one of said two UEs causes radio interference with at least one of said active UEs according to the relative position, further determining whether said UE and said active UE are assigned in a same timeslot (paragraph [0004]).

The modified communication of Zeira doesn't explicitly disclose executing the scrambling code if said UE and said active UE are assigned in the same timeslot.

Buchert discloses executing the scrambling code if said UE and said active UE are assigned in the same timeslot (paragraph [0002], lines 11-21).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use executing the scrambling code if said UE and said active UE are assigned in the same timeslot as taught by Buchert into the modified communication of Zeira in order to prevent inter-base station interference, which potentially occurs when a UE is in the range of two nearby base stations.

6. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira in view of Takahashi and Buchert, and further in view of Skillermark et al. (US 2005/0111408 A1).

As applied above, the modified communication of Zeira discloses determining the redundant code group usage information and determining said redundant code group information according to said code group usage information. However, the modified communication of Zeira doesn't disclose receiving the code group usage information of said camping cell and its adjacent cells transmitted by said two UEs.

Skillermark teaches receiving the code group usage information of said camping cell and its adjacent cells transmitted by said two UEs (paragraph [0022]; [0018], users or UEs report back to UTRAN).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use receiving the code group usage information of said camping cell and its adjacent cells transmitted by said two UEs as taught by Skillermark into the modified communication of Zeira in order to reduce computational complexity and degradation of the performance of the system in an unlimited number of users in the cells, and to increase the quality of service perceived by the users.

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7. Claims 4-6, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira in view of Takahashi and Buchert, and further in view of Das et al. (US 2003/0192003 A1).

Regarding claim 4, 6 and 14, the modified communication of Zeira discloses determining the redundant code group information includes: determining the redundant code group information according to the code group usage information camping cell and its adjacent cells. However, the modified communication doesn't disclose the code group information is pre-assigned, and reclaiming the scramble code and/or descrambling the received transmission.

Das teaches the code group information is pre-assigned (paragraph [0087]), and reclaiming the scramble code and/or descrambling the received transmission (paragraph [0050]; [0017]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the code group information is pre-assigned, and reclaiming the scramble code and/or descrambling the received transmission as taught by Das into the modified communication of Zeira in order to reduce the likelihood of simultaneous transmissions to UEs in the same code group, thereby improving false alarm probability.

Regarding claim 5 and 15, the modified communication of Zeira discloses the measuring a relative position includes: detecting whether said two UEs fall within a radio range of each of said active UEs, and detecting whether each of said active UEs falls within the radio range of said two UEs (Figs. 2A-2D; paragraph [0015]).

8. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira in view of Skillermark, and further in view of Kim et al. (US 2003/0119452 A1).

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Zeira discloses a method for mitigating P2P (Peer-to-Peer) interference, performed by a UE (User Equipment) (paragraph [0013]-[0015]), comprising: acquiring code group usage information of a cell where the UE is camping (paragraph [0028]-[0029], receiving the code information corresponding to a cell and to adjacent cells where the WTRU close to each other), reading the code group information of adjacent cells.

The acquiring and reading the code group usage information of the cells is through a cell search procedure, and sending the code group usage information of the cell where the UE is camping to a network system and also sending the code group usage information of the cell's adjacent cells to the network system.

Skinnermark discloses the acquiring and reading the code group usage information of the cells is through a cell search procedure (paragraph [0026]-[0028]; [0021]; [0023], illustrates the code usage information of the cells is through cell search procedure).

Skinnermark doesn't teach sending the code group usage information of the cell where the UE is camping to a network system and also sending the code group usage information of the cell's adjacent cells to the network system.

Kim teaches sending the code group usage information of the cell where the UE is camping to a network system and also sending the code group usage information of the cell's adjacent cells to the network system (paragraph [0076]-[0077]; [0297], transmitting code information of a cell and neighboring cells to the network system).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the acquiring and reading the code group usage information of the cells is through a cell search procedure, and sending the code group usage information of the cell

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where the UE is camping to a network system and also sending the code group usage information of the cell's adjacent cells to the network system as taught by Skillermark and Kim into the communication of Zeira in order to reduce computational complexity and degradation of the performance of the system in an unlimited number of users in the cells, and to increase the quality of service perceived by the users and to control transmission power for the service.

9. Claims 8-9, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira in view of Skillermark and Kim, and further in view of Takahashi.

The modified communication of Zeira discloses receiving a scrambling code assigned by said network system, the scrambling code being assigned to the UE by said network system through selecting from code group information determined by said network system according to said code group usage information, performing a scrambling operation on P2P signals to be sent by the UE by using said scrambling code, and sending the scrambled signals to another UE having established aP2P link with the UE (paragraph [0030]; [0015]; [0017]-[0018]; [0017]; [0013]; [0023]; [0025]).

The modified communication of Zeira doesn't explicitly disclose the determined code group information is redundant (or unused code information) and the selection is out of these unused code information.

Takahashi teaches the determined code group information is redundant (or unused code information) and the selection is out of these unused code information (figs. 1, 8-12, 17; col. 10, line 37-col. 11, line 14; col. 8, line 63-col. 9, line 1; col. 15, lines 13-31; col. 20, lines 20-24, illustrating that the mobiles stations within the coverage area of a single base station are directly

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communicated without an involvement of the base station selecting and using the determined unused code information).

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to use the determined code group information is redundant (or unused code information) and selecting out of these unused code information as taught by Takahashi into Zeira in order to reduce the load on a base station to handle cellular calls and to increase the capacity for the user call in the CDMA-based environment or system.

10. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeira in view of Skillermark, Kim and Takahashi, and further in view of Das.

The modified communication of Zeira discloses perform a scrambling operation on the P2P signals for communication between the wireless devices or sending from one wireless device to another (fig. 2C). However, the modified communication doesn't disclose descrambling the received transmission.

Das teaches descrambling the received transmission (paragraph [0050]; [0017]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate descrambling the received transmission as taught by Das into the modified communication of Zeira in order to reduce the likelihood of simultaneous transmissions to UEs in the same code group, thereby improving false alarm probability.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIBROM T. HAILU whose telephone number is (571)270-1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kibrom T Hailu/

Examiner, Art Unit 2461

/Huy D Vu/

Supervisory Patent Examiner, Art Unit 2461